

**UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
RENTON, WASHINGTON 98055-4056**

In the matter of the petition of

**Airbus Industrie**

**Regulatory Docket No. 27636**

for an exemption from §§ 25.785(d),  
25.813(b), 25.857(e), and 25.1447(c)  
of the Federal Aviation Regulations

**GRANT OF EXEMPTION**

By letter AI/EA 410.0042/94 dated February 24, 1994, Wolfgang Didszuhn, Vice President, Product Integrity, Airbus Industrie, 1, Rond-point Maurice Bellonte, 31707 Blagnac, France, petitioned for an exemption from the cargo-only provisions of § 25.857(e), and the passenger requirements of §§ 25.785(d), 25.813(b) and 25.1447(c) for the Model A300F4-600R airplane, to allow carriage of six non-crewmembers (commonly referred to as supernumeraries.)

**Sections of the FAR affected:**

Section 25.785(d) at amendment 25-32 requires, in pertinent part, that there be a firm handhold to enable occupants to steady themselves when moving through the aisles in moderately rough air.

Section 25.813(b) at amendment 25-32 requires, in pertinent part, that each floor level exit equipped with an assist means have an assist space next to it.

Section 25.857(e) at amendment 25-32 requires, in pertinent part, that when a class E cargo compartment is installed on the airplane, the airplane is used for carriage of cargo only.

Section 25.1447(c) at amendment 25-41 requires, in pertinent part, that there be ten percent more oxygen masks than occupants and that there be two oxygen masks in each lavatory.

### **Related Sections of the FAR**

Section 121.583(a) contains, in pertinent part, a listing of categories of the people who may be carried aboard an airplane in part 121 service without complying with all the passenger-carrying airplane requirements of part 121.

### **The petitioner's supportive information is as follows:**

"Airbus Industrie, 31707 Blagnac - France, hereafter designated as 'Airbus', hereby petitions the Federal Aviation Administration (FAA) for an exemption from parts of the requirements of Sections 25.857(e), 25.785(d), 25.813(b), 25.1447(c)(1) and 25.1447(c)(3)(ii) of the Federal Aviation Regulations (FAR) to allow Type Certification of its Airbus model A300F4-600R(freighter) and for the carriage on the main deck of up to six (6) noncrewmembers (persons not necessarily assigned some duty associated with the operation of the airplane) in addition to the maximum four (4) flight deck occupants, with a limit on the total occupancy of 10."

#### ***DESCRIPTION OF THE AIRPLANE TO BE COVERED***

"The Airbus A300F4-600R model is a pressurized, transport category airplane powered by two turbofan engines. It will be included on the United States (U.S.) Type Certificate n°A35EU, first issued on May 30, 1974. The A300F4-600R is an all freighter airplane, having an all-cargo main deck configuration.

"In order to optimize the cargo missions, accommodation for six persons is provided between the flight deck and the main deck class E compartment, in the direct vicinity of the exits. Except for the Sections from which exemption is requested, all design criteria applicable to the carriage of passengers have been taken into account for the design of this seating arrangement. In particular, protection against crash and penetration of smoke and noxious gases is provided in the form of a 9g crash net and smoke-tight curtains, which isolate the main deck cargo compartment from the zone where the supernumerary persons are seated. Two emergency exits identical to the ones installed and qualified as Type A on the passenger version of the type are located on each side of the fuselage, both equipped with escape slides. Oxygen supply in case of depressurization (as required in case of smoke warning in the main deck cargo compartment) is ensured by fixed oxygen bottles, which can supply oxygen for all the airplane occupants for the maximum possible duration. The occupants are instructed that

oxygen masks need to be used by a chime and lighted signs located in their direct eyescan. These information signs can be either manually activated by the flight crewmembers or are automatically turned on by an altitude pressure switch. The front of the mask box is fitted with two half-doors, one of which is actuated by the removal of the mask from its housing and initiates the automatic opening of a miniature oxygen valve. Two-way communication with the cockpit is possible through dedicated communication panels and other emergency equipment as required by the applicable Airworthiness Standards are also provided. Airbus believes that an equivalent level of safety with the parts of the requirements from which relief is sought will be achieved by design precautions and by introduction in the A300F4-600R Airplane Flight Manual of limitations defining the conditions under which supernumerary persons may be carried."

#### *EXTENT OF THE REQUESTED REGULATORY RELIEF*

"The main purpose of this request for exemption is to permit carriage of noncrewmembers on an all-freighter airplane, which is the direct reason for requesting exemption from Section 25.857(e). Other Sections from which exemption is sought are subordinated to this first one. Exemption from the aforesaid Sections is sought to the following extent

"Section 25.785(d): no handgrip is installed.

"Section 25.813(b): assist space is not provided next to the emergency exits. The assist space is adequately respected on one side in the cases when the cargo load has not shifted forward, further to crash landing conditions.

"Section 25.857(e): relief is sought to permit carriage of six persons on an all-freighter airplane, which has a class E cargo compartment.

"Section 25.1447(c)(1): one oxygen dispensing unit is supplied and readily available for every seated occupant. The occupants will take hold of the mask upon instruction via lighted signs and chime controlled by the flight crew.

"Section 25.1447(c)(3)(ii): one oxygen mask is stored in the lavatory. It can be connected to the fixed oxygen distribution system."

#### *SUPPORTING ARGUMENTS*

"The cargo operators need for their missions a number of support personnel, necessary for the safe handling of the cargo in the process of loading/offloading. Such personnel are obviously needed both at departure and destination of a cargo flight. It is particularly important that the cargo handlers are present upon

airplane arrival if perishable goods or live animals are carried. The most efficient, surest and cheapest way to assure their attendance at the destination airport is to transport them aboard the cargo flight.

"Among their various missions, the cargo operators may have to carry particular kinds of goods, such as live animals, hazardous materials, valuable or perishable cargo. Such types of cargo cannot be left unattended, even for the duration of a flight, and the presence of personnel qualified in their handling is necessary on the airplane on which they are carried. Safety and efficiency of the operation will therefore be enhanced.

"Cargo operators also need to have qualified personnel necessary for operation and maintenance purposes at various locations. They will optimize their missions if they are permitted to carry their personnel aboard their cargo flights, thus saving travel by regular passenger flights.

"The Airworthiness Standards applicable to Type Certification of the Airbus A300F4-600R, as well as the current Airworthiness Standards, actually consider carriage aboard commercial flights of crewmembers, including flight crewmembers and cabin attendants, who are each assigned duties associated with the operation of the airplane, and passengers who have no expected ability in the use of emergency provisions and therefore need to be attended.

"The categories of occupants for which this exemption is sought are qualified aeronautical personnel. Furthermore, they are trained as to the autonomous use of emergency equipment and emergency exit operation. It will also be required that the operator only allows access to these seats to persons found able to perform these tasks on their own.

"Therefore the assist space adjacent to the emergency exits required by Section 25.813(b) for assisting the passengers in evacuating is not necessary as the considered categories of personnel will be trained for door operation and autonomous evacuation. Both doors are equipped with self-deploying slides.

"Likewise, the requirements of Sections 25.1447(c)(1) and (c)(3)(ii) to have automatic presentation of oxygen dispensing units before the cabin pressure altitude exceeds 15,000 ft are compensated by the fact that the users will have knowledge of equipment location and use. The masks provided are quick donning masks with regulator and are immediately available to seated occupants. A similar procedure for reach and use of dispensing units applies to flight crewmembers.

"As far as the excess 10 percent dispensing units also required by Section 25.1447(c)(1) are concerned, they are mainly required for two purposes: use by cabin attendants

moving along the aisles, and passengers' awkwardness to reach one mask. None of these factors applies to the considered configuration.

"The requirements of Section 25.785(d) to have handgrips installed when seatbacks do not allow a firm handhold could not be met due to the fact that the six rearward facing seats are affixed to vertical partitions (stowage on the righthand side, lavatory wall on the lefthand side). Such grips are mainly intended for the use of cabin attendants who need to frequently walk along the aisles. For the considered categories of occupants, the recommendation to remain seated with seat belt fastened, as far as practicable, will be made in order to limit moving around to the necessary minimum."

#### *PUBLIC INTEREST*

"The granting of this exemption will be in the public interest as, by having the possibility of carrying supernumerary persons aboard their cargo flights, the U.S. operators of the Airbus A300F4-600R airplanes will be able to operate under optimal safety conditions, to render their operation more efficient and to make substantial savings in carrying their personnel from one place to another. The reasons for these benefits are developed in the arguments above. This will also improve the utility of cargo airplanes."

#### *REQUEST FOR WAIVER*

"Due to difficulties in interpreting the applicable regulations which do not specifically address the case (see supporting arguments), and in particular the FAR 25.857(e), and also due to misunderstandings and communication problems between the FAA and AI, the issue was lately identified in the certification process. The need for the present exemption has just been raised by the FAA, although AI had provided already in July 1992 all the information relevant to the design of this aircraft. In order to allow on schedule entry into service with a U.S. operator of the Airbus A300F4-600R airplanes by the 20th of April, 1994 with the essential possibility of carrying supernumerary persons, Airbus therefore requests that the 120 day advance filing requirements of Section 11.25(b)(1) of the FAR be waived.

"Airbus believes that good cause exists to waive the publication and comment requirements of Section 11.27(c) of the FAR, in accordance with Section 11.270(3)(i). In particular, we feel that the main purpose of this petition and the reasons presented in this petition are identical to exemptions previously granted by the FAA."

The FAA finds, for good cause, that action on this petition should not be delayed by publication and comment procedures for the following reasons: (1) the grant of this petition would not set a precedent in this matter in that it involves provision for carriage of supernumerary individuals on a freighter airplane as has been allowed on several other models; (2) delay in acting on the petition would result in harm to US operators that are scheduled to introduce the airplane into

service; and (3) there was confusion regarding the need for an exemption that resulted in a delay of the petition.

**The FAA's analysis/summary is as follows:**

The petitioner has requested relief primarily from the requirements of § 25.857(e), which permit carriage of cargo only when a class E cargo compartment is installed on the airplane. Class E cargo compartments are usually remote from the flight deck and encompass the entire interior of the airplane. The means of controlling fires that might occur in the cargo compartment is to starve the fire of oxygen. This is accomplished by depressurizing the airplane and maintaining an altitude that will not support combustion. For this reason, only crewmembers are permitted on board such airplanes.

As noted by the petitioner, the FAA has previously granted exemptions for carriage of persons in addition to crew on freighter airplanes, provided certain conditions are met. These conditions have varied, depending on the airplane design and the number of persons involved.

In all cases, there must be suitable means of preventing smoke penetration into areas that are occupied. In addition, due to the nature with which the fire is controlled, it is necessary to limit persons on board the airplane to those that have been found physically fit by the operator and have been briefed on the use of emergency equipment. The Airbus design accounts for these considerations by providing a smoke curtain, and proposing limitations on the occupants. These are consistent with previous approvals.

For the A300F4-600R, a major positive feature of the design is the retention of the passenger doors. These doors have the dimensions (42"X72") of Type A exits and incorporate inflatable escape slides to facilitate egress. For a passenger airplane with the same number of occupants, the regulations only require a pair of Type III exits, which are 20"X36" in size. Even though the interior arrangement of this airplane does not provide all of the required access to classify the exits as Type A, they are far superior to a minimum Type III exit. The FAA considers that an assist space is not necessary in this case due to the higher level of training and awareness of the occupants.

The requirement for a handhold to enable passengers or flight attendants to steady themselves while using aisles in moderately rough air is geared toward airplanes that may have fairly long distances between seats and areas of the cabin where persons may be in flight. On the A300F4-600R, the occupied area is very small, and it is possible to return to each seat very quickly. In addition, the occupants would be seated for the majority of the flight, as noted by the petitioner. Therefore the FAA concurs that a handhold is not necessary.

The FAA considers that the supernumeraries should have an oxygen system that is comparable to that of passengers. However, taking into account the extra knowledge and training that these people will have, it is not necessary that an equivalent system be installed. In this case, the

masks are installed in a readily accessible location that is visible to the occupants, and are of the quick-donning variety. A single motion removes the mask from its stowage, which is directly comparable to passenger oxygen. Notification that oxygen is necessary is by visual and aural signal, as opposed to automatic presentation of the masks. Since the occupants will be briefed on the location of the masks and the signals for their use, this difference is considered acceptable. As noted by the petitioner, § 25.1447(c)(1) requires that there be ten percent more masks than occupants, and § 25.1447(c)(3)(ii) requires that there be two masks in each lavatory. The FAA concurs that the rationale behind these requirements does not apply in this case, and therefore an exemption is warranted.

In conclusion, the FAA has determined that the existing regulations for type certification do not address occupants that are neither crew nor passengers, and an exemption is warranted to permit carriage of these supernumerary individuals.

In consideration of the foregoing, I find that a grant of exemption is in the public interest and will not affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in §§ 313(a) and 601(c) of the Federal Aviation Act of 1958, delegated to me by the Administrator (14 CFR 11.53), Airbus Industrie is hereby granted an exemption from §§ 25.785(d), 25.813(b), 25.857(e), and 25.1447(c) of the Federal Aviation Regulations. The petition is granted to the extent required to permit type certification of the Airbus Model A300F4-600R series airplanes, with provisions for the carriage of supernumeraries when the airplane is equipped with two floor level exits with escape slides, within the occupied area. The following limitations apply:

1. The airplane flight manual must contain a limitation that occupancy is restricted to six persons outside of the flight deck;
2. Occupants are limited to the categories specified in § 121.583(a)(1) through (7);
3. Each occupant must be briefed by a flight crewmember on the use of the exits and emergency equipment prior to each flight; and
4. The operator must determine that each occupant is physically able to accomplish the necessary emergency procedures.

This exemption will remain in effect unless superseded or rescinded.

Issued in Renton, Washington, on March 30, 1994.

/s/ Ronald T. Wojnar, Manager  
Transport Airplane Directorate  
Aircraft Certification Service, ANM-100